What is claimed is:

1. A polyethylene naphthalate fiber produced by a method comprising the steps of:

(A) melt-spinning a solid phase-polymerized polyethylene-2,6-naphthalate chip containing ethylene-2,6-naphthalate units at more than 85 mole% and a silica compound and having an intrinsic viscosity of 0.70-1.20, to produce a melt-spun yarn;

(B) passing the melt-spun yarn through a retarded cooling zone and a cooling zone to solidify the yarn;

(C) withdrawing the yarn at such a speed that the undrawn yarn has a birefringence of 0.001-0.1; and

(D) subjecting the undrawn yarn to multi-stage drawing at a total draw ratio of at least 1.5 and a drawing temperature of 50-250 °C; and wherein the polyethylene naphthalate fiber having some properties of (1) an intrinsic viscosity of 0.60-1.10, (2) a tenacity of 8.0-11 g/d, (3) an elongation of 6.0-15%, (4) a birefringence of at least 0.35, (5) a density of 1.355-1.368, (6) a melting point of 267-280 °C, and (7) a shrinkage of 1-5%.

2. The polyethylene naphthalate fiber of Claim 1, which has a fineness of 500 to 3,000 denier.

3. The polyethylene naphthalate fiber of Claim 1, wherein the silica compound is fumed silica.

4. The polyethylene naphthalate fiber of Claim 1 or 3, wherein the content of the silica compound is 50-1,000 ppm.

5. The polyethylene naphthalate fiber of Claim 1 or 3, wherein the content of the silica compound is 150-500 ppm.

6. The polyethylene naphthalate fiber of Claim 1 or 3, wherein the silica compound has an average particle size of 1-1,000 nm.

7. The polyethylene naphthalate fiber of Claim 1 or 3, wherein the degree of crystal orientation of the polymer as measured by WAXS analysis is decreased by the addition of the silica compound compared to the case where the silica compound is not added.

8. The polyethylene naphthalate fiber of claim 1, wherein the heating zone having an atmosphere temperature of 300-400 °C is placed just before and adjacent to the cooling zone in the step (B).

9. The polyethylene naphthalate fiber of claim 1, wherein the heating zone having a length of 300-500 mm is placed just before and adjacent to the cooling zone in the step (B).

10. A dipped cord prepared by plying and cabling 2 strands of the polyethylene naphthalate fiber of claim 1, followed by a resorcinol-formaline-latex treatment; said cord having (1) a dimensional stability index represented by the sum of $E_{2.25}$(elongation at 2.25 g/d load) and FS(free shrinkage) of 5.5% or below, and (2) a tenacity of at least 6.0 g/d.

11. Rubber products incorporating the dipped cord of Claim 10 as a reinforcement material.

12. A pneumatic radial tire having an aspect ratio of less than 0.65, which comprises a pair of parallel bead cores, at least one radial carcass ply wound around the bead cores, a belt layer formed on the outer circumferential side of the carcass ply, a belt-reinforcing circumferential layer formed on the outer circumferential side of the belt layer, in which the carcass ply comprising a polyethylene naphthalate dipped cord containing silica compounds.

13. The pneumatic radial tire of Claim 12, wherein the carcass ply is formed in one layer.

14. The pneumatic radial tire of Claim 12, wherein the carcass ply is formed in two layers.

15. The pneumatic radial tire of Claim 12, wherein the reinforcement density of the dipped cord in the carcass ply is 15-35 EPI.

16. The pneumatic radial tire of Claim 12, wherein the dipped cord has a twist number of 250-500 TPM.

17. The pneumatic radial tire of Claim 12, wherein the dipped cord has a fineness of 1,000 to 6,000 denier.